

## **Abstract**

**An arc welding method using a welding material having a low transformation temperature, characterized in that it is carried out by the use of a shielding gas consisting of a rare gas alone or a mixed gas of a rare gas and a small amount of an oxygen gas; and an additional welding method using a welding material having a low transformation temperature, characterized in that it is carried out while moving a weld line in the form of a straight line. The former method allows the enhancement of a Charpy value in combination with improved fatigue strength, and the latter allows the experience of heat history of the material having a low transformation temperature to be suppressed, resulting in the prevention of weld crack in combination with an improved fatigue strength.**